REMARKS

The application includes claims 1, 4, 6-19, and 22-24 prior to entering this amendment.

The examiner objected to the specification under 35 U.S.C. 132(a) alleging it introduced new matter not supported by the original disclosure.

The examiner rejected claims 6, 8, 16, and 24 under 35 U.S.C. § 112, first paragraph, alleging they failed to comply with the written description requirement.

The examiner rejected claims 1, 4, 9, 12 and 15 under 35 U.S.C. § 103(a) over Bullock et al. (U.S. Patent 5,351,186) in view of Ohnishi (U.S. Patent 5,682,431) and Beck et al. (U.S. Patent 5,802,150).

The examiner rejected claims 6-8 under 35 U.S.C. § 103(a) over Bullock in view of Ohnishi, Beck, and Ishii (U.S. Patent publication 2002/032612).

The examiner rejected claims 10-11 under 35 U.S.C. § 103(a) over Bullock in view of Ohnishi, Beck, and Lee (U.S. Patent 6,374,177).

The examiner rejected claims 13 and 17-18 under 35 U.S.C. § 103(a) over Bullock in view of Beck.

The examiner rejected claim 14 under 35 U.S.C. § 103(a) over Bullock in view of Beck and Lee.

The examiner rejected claim 16 under 35 U.S.C. § 103(a) over Bullock in view of Beck and Ishii.

The examiner rejected claims 19 and 22 under 35 U.S.C. § 103(a) over Bullock in view of Lee and Beck.

The examiner rejected claim 23 under 35 U.S.C. § 103(a) over Bullock in view of Lee, Beck, and Ohnishi.

The examiner rejected claim 24 under 35 U.S.C. § 103(a) over Bullock in view of Lee, Beck, and Ishii.

The applicant amends claims 1, 4, 6-14, 17-19, 22 and 23 and adds new claim 25.

The application includes claims 1, 4, 6-19, and 22-25 after entering this amendment.

The applicant does not add new matter and requests reconsideration.

Specification Objections

The examiner objected to the specification alleging that the amendment filed 8/15/2007 introduced new matter into the disclosure. The examiner appears to be rejecting certain amended claims for lack of support in the specification.[1] This conclusion is borne out by the examiner's rejection of claims 6, 8, 16, and 24 under § 112, where he identified the same matter and alleged that such matter "is not supported." Accordingly, this objection is addressed by the following discussion of the corresponding claim rejections under § 112.

Claim Rejections Under § 112

The examiner rejected claims 6, 8, 16, and 24 under 35 U.S.C. § 112, first paragraph, alleging that they failed to comply with the written description requirement.[2] In particular, the examiner alleged that the specification does not clearly disclose how the processing of "the signal combiner" (or processor that includes a signal combiner) "is configured to time-division multiplex the digitally encoded speech and the audio signal to generate the combined signal" (or FM digital audio signal). The examiner alleged such limitation is not supported in the specification, in any figures presented, in any claim originally presented, nor otherwise described in the specification as to reasonably convey to one skilled in the art that the inventors "had possession" of the invention "at the time the application was filed."[3]

Time division multiplexing finds clear support in the specification of the application. At the time of filing, claim 8 originally provided, inter alia, "the signal combiner is multiplexing circuitry in the processor that time-division multiplexes the digital FM encoded audio signal and the FM data signal to generate the composite FM signal."[4] Moreover, the specification describes how the "text information" can be "annunciated," including by a "text-to-speech process (annunciation process)" implemented by the processor, "prior to the start of the song."[5] Put differently, the specification describes that the digitally encoded speech (annunciated text) is

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1 Claimed subject matter not in the original specification is generally rejected for lack of proper antecedent basis under 37 CFR 1.75(d)(1). See MPEP 608.01(o) (all references to the MPEP refer to the 8th edition as revised through July 2008). If such matter is also added to the "descriptive portion" of the specification, then it is proper to request that such matter be canceled. See MPEP 608.04, second sentence.

2 Claim 16, as amended herein, no longer contains the matter identified by the examiner as new.

3 Office action dated 11/12/2008, page 3.

4 The original claims as filed are part of the patent specification. *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 938, 15 U.S.P.Q.2d 1321, 1326 (Fed. Cir. 1990).

5 Specification, par. 0025.

time-multiplexed ("prior to the start") with the audio signal ("of the song") so that both may be played "as a conventional FM signal."[6] The specification further notes how different data sets may be "concatenated" (e.g., by the processor).[7] The specification, therefore, provides sufficient detail on the mechanism for "time-multiplexing" the text and audio data (e.g., first turning the text into speech and then concatenating the speech and audio streams in the processor for FM encoding and transmission) to a person of ordinary skill in the art.[8] The applicant respectfully asks the examiner to reconsider the specification objections and claim rejections under § 112.

Claim Rejections Under § 103

Claims 1, 4, and 6-12

The examiner rejected claims 1, 4, 9, 12 and 15 under § 103(a) over Bullock in view of Ohnishi, and Beck. The examiner rejected claims 6-8 under § 103(a) over Bullock in view of Ohnishi, Beck, and Ishii. The examiner rejected claims 10 and 11 under § 103(a) over Bullock in view of Ohnishi, Beck, and Lee. The applicant respectfully disagrees for at least the reasons that follow.

Concerning independent claim 1, the examiner alleged that Bullock discloses a processor (CPU) to receive text data (26) and an audio signal and to encode the audio signal and speech according to an FM standard into an FM digital signal. The examiner acknowledged that Bullock's text data is not "descriptive of" the audio signal, nor does its processor "convert the text into digitally encoded speech."[9] The examiner indicated Beck[10] remedied the deficiencies of Bullock with its text to speech converter 301 concluding it would have been obvious to combine Beck with Bullock "for more convenience to the user."[11] The examiner further acknowledged that Bullock does not show "a converter configured to convert the FM digital signal into an analog FM signal," but alleged this teaching disclosed in Ohnishi.[12]

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6 Id.
7 Id.
8 See applicant's original specification, par. 0037.
9 Office action dated 11/12/2008, page 6.
10 Beck, col. 7, line 9 to col. 8, line 67.
11 Office action dated 11/12/2008, page 6.
12 Id.

The reasoning ignores that Beck uses its text to speech converter 301 to prepare digital signals from PC bus 100 for transmission over a phone line 140,[13] whereas Bullock already has a system in place for preparing digital signals for phone line transmission (e.g., modem 34).[14] Bullock, therefore, has no need for Beck's text-to-speech converter 301. Accordingly, no motivation exists to combine Beck and Bullock in the manner the examiner proposes to achieve user convenience.

In any event, amended claim 1 now recites "text data providing ancillary information descriptive of the audio signal."[15] In Beck, the text and audio signal are merely equivalent forms of the same data insofar as Beck's audio signal is completely recoverable from the text. Beck's text data does not, as claimed, represent "ancillary information" descriptive of the audio signal. Thus, the proposed combination of Bullock and Beck fails to disclose every limitation of amended claim 1.

For the above reasons, then, amended claim 1 patentably defines over the proposed combination of Bullock, Ohnishi, and Beck and stands in condition for the examiner's allowance. Furthermore, claims 4, and 6-12, which depend from claim 19, likewise define patentably over Bullock, Ohnishi, and Beck and any other reference of record for at least the same reasons.

Claims 13-18 and 25

The examiner rejected claims 13 and 17-18 under § 103(a) over Bullock in view of Beck. The applicant respectfully disagrees for at least the reasons that follow.

Concerning independent claim 13, the examiner alleged that Bullock discloses a transceiver including a modulator to generate a text data signal "in response to a broadcast...transmission" (here the examiner cites elements 26 and 34 of Bullock).[16] Bullock's item 26 is an input/output device including a keyboard.[17] This keyboard generates text in response to user entry. It does not generate text, as recited in amended claim 13, "in response to a broadcast transmission."

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[13] In Beck, when DTMF tones are detected indicating a text message request, a text file is sent to the text-to-speech converter 301 for transfer to telephone line 140. Beck, col. 8, lines 25-36.

[14] Bullock; col. 4, lines 33-36.

[15] Specification, par. 0037 "The text data may be song "titles, artists, lyrics" which "describe" something about a music track (audio signal) while still representing information "ancillary" (not equivalent) to the music track.

[16] Office action dated 11/12/ 2008, page 4.

Claim 13, moreover, recites that the text signal is "modulated" and that this "modulated" text signal is combined with an FM encoded audio signal. Having modulated signals presupposes two different signals, one being modulated and the other doing the modulating. Although Bullock's text data, as generated by the keyboard, may be relayed by CPU 24 to modem 34 for tone modulation, modem 34 represents a separate path used "alternatively" to the path represented by FM transmitter 38.[18] That is, insofar as Bullock's text data is "modulated" by modem 34 (for wired transmission), it is not then combined, as further recited in claim 13, with an FM encoded signal and transmitted by an FM transmitter (for wireless transmission). Moreover, amended claim 13 now recites that that the text data is "modulated as an RDS signal," and there is no suggestion anywhere that Bullock's modem 34 performs such modulation.[19]

Even apart from these differences, the examiner acknowledged that Bullock does not disclose, as claimed, that its "text" data (from the keyboard) is "descriptive of" its "audio" data (generated by Bullock's speech encoder 25).[20] Here, the examiner finds that it would have been obvious to combine Beck's text to speech converter 301 with Bullock "for more convenience to the user." However, as discussed above in connection with amended claim 1, it would not have been obvious to combine these two references as proposed. Furthermore, both amended claims 1 and 13 now recite "text data providing ancillary information descriptive of the audio signal," and, as discussed above, the proposed combination fails to disclose this language.

Claim 25 is a new claim directed to certain "retransmission" (or bridging) aspects of the transceiver and also finds adequate support in the specification.21

For the above reasons, then, amended claim 13 patentably defines over the proposed combination of Bullock and Beck and stands in condition for examiner's allowance. Furthermore, claims 14-18 and 25 which depend, directly or indirectly, from claim 13, likewise define patentably over Bullock and Beck and any other reference of record for at least the same reasons.

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17 Bullock; col. 4, lines 22-23. See also Bullock's Fig. 1.

18 Bullock; col. 4, lines 33-41.

19 Support for this language is provided in applicant's original specification, par. 0027, last sentence. A specific transformation the data may undergo includes modulation about a 57kHz RDS suppressed subcarrier. This operation is preferably performed by the recited processor.

20 In Bullock, the speech encoder receives "direct audio," as through a microphone (col. 4, line 44-46), the sense being that the user can either type or speak in the product/service information (see also col. 3, lines 28-30).

21 Specification, pars. 0022, 0027, and 0040.

Claims 19 and 22-24

The examiner rejected claims 19 and 22 under § 103(a) over Bullock in view of Lee and Beck. The examiner rejected claim 23 under § 103(a) over Bullock in view of Lee, Beck, and Ohnishi. The examiner rejected claim 24 under § 103(a) over Bullock in view of Lee, Beck, Ohnishi, and Ishii. The applicant respectfully disagrees at least for the reasons that follow.

Concerning independent claim 19, the examiner alleged that Bullock discloses a processor (CPU) configured to receive an audio signal (25) and text data, to generate a "modulated text data" signal from the text data (26, 34), to combine the "modulated text data" and the... audio signal into a combined audio signal, and to convert the combined audio signal into an FM signal for transmission.[22] As discussed above in connection with claim 13, to the extent Bullock's text is "modulated" by modem 34 (for wired transmission), it is not then combined, as further recited in claim 19, "with the audio signal" and transmitted by an FM transmitter (for wireless transmission).

The examiner acknowledged that Bullock does not show "text data descriptive of the audio signal,"[23] but alleged that it would have been obvious to add Beck's text to speech converter 301 to Bullock. As discussed above in connection with claim 1, the proposed combination would not have been obvious and, even if made, would not have disclosed text data "providing ancillary information descriptive of the audio," as amended claim 19 recites.

Lee, also cited by the examiner, discloses an Internet radio suitable for portable uses, as in an automobile.[24] The multimedia/navigation device 20 (Fig. 1), provides multiple receiver types which include a multi-band receiver 210, for receiving broadcast station transmissions (satellite, AM/FM/TV, digital audio), an Internet gateway unit (communicator) for receiving cellular-, satellite-, or FM-band communications from various Internet-based information services (forming Internet gateway 30), and a narrowband receiver 72 for wireless local transfer of personal data, including uploads from notebook computers, PDA's or cellular phones.[25] Lee's device 20 is primarily designed to replace "existing simple vehicle radio...designs" requiring manual station retuning as the vehicle roams or systems using RDS codes which "few" stations

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22 Office action dated 11/12/2008, page 9.

23 Id.

24 Lee; Abstract, first sentence. While Lee's device 20 is "portable," in the sense it may be installed and transported in mobile vehicles, this does not signify it is "handheld."

25 Lee; col. 7, lines 54-58 and col. 12, lines 37-41.

are able to broadcast.[26] It does so by further including a GPS receiver 110, which provides vehicle location information to Lee's device 20. The vehicle location information is transferred via the Internet gateway communicator to the network so that a "new set of local stations" can be transferred back to the radio from a broadcaster database.[27] The Internet gateway unit also allows a user, working at a remote computer,[28] to configure and exchange personalized data with the radio 20 via the Internet gateway 30 and to identify preferred Internet services.[29] Lee's radio 20 can also be "attached" to "multimedia storage equipment," such as CD/DVD or cassette players, for playback and recording purposes.[30]

Like Bullock and Beck, Lee fails to teach combining a "modulated" text data signal with an audio signal for conversion and transmission as an FM signal. It may be mentioned that the same is true of Ishii, cited by the examiner, which provides a codec 44 in which audio and text are TDMA (time division multiple access) encoded but with unmodulated text.[31] The examiner alleges that Lee, in particular, teaches a "handheld" audio player, such as a CD player, which teaching may be applied to Bullock so its "computer device will be easy for the user to carry around." In claim 19, however, the main processor is part of the "handheld" player. Lee, by contrast, teaches that a separate player, with its own separate processor, may be "attached" to Lee's "programmable" device 20.

For the above reasons, then, amended claim 19 patentably defines over the proposed combination, including Bullock, Lee, and Beck, and stands in condition for the examiner's allowance. Furthermore, claims 22-24, which depend from claim 19, likewise define patentably over Bullock, Lee, and Beck and any other reference of record for at least the same reasons.

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[26] Lee; col. 2, lines 33-59.
[27] Lee; col. 14, lines 46-53.
[28] See, e.g., Lee, computer 40 in Fig. 1 and computer 206 in Fig. 3.
[29] Lee; col. 6, lines 6-8 and 24-31; col. 12, lines 3-22.
[30] Lee; col. 4, lines 10-24 and col. 8, lines 44-47.
[31] Ishii, par. 0049 and 0054. As noted previously in the body of the remarks, modulation presumes another signal or subcarrier (apart from the text and audio signals) being modulated.

Conclusion

In view of the foregoing, the applicant respectfully submits that claims 1, 4, 6-19, and 22-25 are in condition for the examiner's allowance. The applicant encourages the examiner to telephone if a conference would advance prosecution.

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Respectfully submitted,

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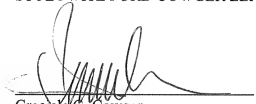

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